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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MCNEIL, JENNIFER C	

ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,890	Applicant(s) JOHNSON, RICHARD NORMAN	
	Examiner Jennifer McNeil	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9-27,30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-27,30 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is not clear how a polymeric base material can comprise anything other than a polymer, therefore it is not clear how this claim further limits the parent claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 11 states that the polymeric material comprises a polymer. It is not clear how this further limits the claim, and also renders the claim indefinite in that it is not clear how a polymeric material could be anything other than a polymer. Claim 16 refers to "at equipment-operating temperatures" for a phase change material. The equipment is not identified; therefore an operating temperature for the equipment cannot be identified, thereby rendering the claim indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9, 11-15, 19-21, 27, 30, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al (EP 0945916 B1). Maeda teaches an electromagnetic wave absorbing material comprising a polymer base, a ceramic filler material, and a magnetic material. Regarding claims 2 and 3, the magnetic particles may have a size of 3 microns (considered a powder), and alumina may be provided which is spherical (example 1). Regarding claim 4, the ceramic may be BN, AlN, alumina, etc (0021). Regarding claim 6, the magnetic particles may be ferrites (0019). Regarding claims 9, 12-15, the polymeric base may be silicone which is included in the listing claimed by applicant, and would be expected to have similar characteristics. Regarding claim 19, as the material of the sheet of Maeda is made of materials similar to that claimed; the characteristics are expected to be similar. Regarding claims 20 and 21, the material of Maeda may be formed into a sheet having a thickness of 0.2-5 mm which overlaps almost entirely with the claimed range (0.254-4.57 mm as converted from inches). Regarding claims 27, 30, and 31, the sheet is shown in the examples to be sandwiched between a transistor and a heat sink (0038).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-14, 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi (US 6,890,970). Kawaguchi teaches a material with magnetic shielding properties comprising a phase change organic material (30) which may be made of EPDM, EVA, polyethylene, etc (col. 3, lines 4-10; col. 4, lines 26-38). A filler may be added for shielding effects such as ferrite, and ceramics such as SiC, SiN, BN, etc (col. 3, lines 19-46). While Kawaguchi does not give an example of more than one type of filler added, the reference clearly teaches that a mixture of magnetic materials and ceramics may be used (col. 4, lines 39-45) which would render a mixture of these compositions obvious to one of ordinary skill in the art based upon the teachings of the reference. Regarding claims 2 and 3, the particles may be in the form of powders, flakes, or powders. A powder is considered to be a spheroid whether regular or irregular. Regarding claim 17, Kawaguchi teaches the addition of paraffin wax (col. 3, lines 8-10). Regarding claims 20-21, Kawaguchi teaches that the material may be formed into a sheet (see examples) but does not give a specific thickness. It would have been obvious to one of ordinary skill in the art at the time of the invention to form the sheet into a thickness which is useful for the intended purpose of a magnetic shield. Regarding claims 27, 30, and 31, the material is taught to be disposed between an electronic component and a heat sink (col. 4, lines 56-65).

Claims 10, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al (EP 0945916 B1) in view of McCullough et al (US 2002/0014748). Maeda teaches the electromagnetic absorbing material above including the silicone gel matrix, but does not give additional examples of a matrix. McCullough teaches an electromagnetic shielding material which comprises a polymer base, a conductive filler, and a metallic filler added thereto. McCullough teaches an elastomeric polymer matrix composition is better for purposes of moldability and versatility. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute an elastomer as taught by McCullough in the sheet material of Maeda as they are both utilized for electromagnetic shielding, both suspend particles, and McCullough teaches the benefits of moldability and versatility of the matrix.

Claims 10-15, 22, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al (EP 0945916 B1) in view of Nakamura et al (US 4,555,422). Maeda teaches the electromagnetic absorbing material above including the silicone gel matrix, but does not give additional examples of a matrix or examples of an adhesive formed on at least one side of the sheet. Nakamura '422 teaches a magnetic shielding article comprising a polymeric material with a ferrite powder wherein the polymer base may be a polyester elastomer or a silicone rubber (col. 6, lines 5-10). Nakamura teaches that the polymer base material is to be selected dependent upon the ambient temperature that the article is to be exposed. It would have been obvious to one of ordinary skill in the art at the time of the invention to select the polymer matrix from that disclosed by Nakamura as both references are magnetic shields, both suspend particles, and Nakamura teaches that the selection may be based upon the intended application of the shield. Regarding the adhesive,

Nakamura teaches that the shield layer may be arranged directly or via an adhesive layer. The adhesive layer may comprise rubber (col. 6, lines 60-65). It would have been obvious to one of ordinary skill in the art to use an adhesive as taught by Nakamura to suspend or support the sheet of Maeda as adhesives are a well know means for attachment, and both references are directed to magnetic shield materials.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al (EP 0945916 B1) in view of Yenni et al (US 6,090,728). Maeda teaches the electromagnetic absorbing material above including the silicone gel matrix, but does not give additional examples of a matrix. Yenni teaches an electromagnetic shield material comprising a polymer base which may be selected from the group including elastomers, paraffin wax, EVA, and blends thereof (col. 8, lines 28-44). The polymers may include inorganic fillers as well. It would have been obvious to one of ordinary skill in the art at the time of the invention to select the polymer matrix material from the compositions of Yenni in the sheet of Maeda as they are both used as electromagnetic shields, both suspend particles.

Claim 22, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al (EP 0945916 B1) in view of Nakamura et al (US 5,841,067). Maeda teaches the electromagnetic absorbing material above including the silicone gel matrix, but does not teach specific examples of an adhesive formed on at least one side of the sheet. Nakamura '067 teaches attachment of an electromagnetic shield via a pressure sensitive adhesive. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a conventional attachment means such as

a pressure sensitive adhesive as taught by Nakamura for attachment of the sheet of Maeda as it is clearly taught as a useful means for attaching by Nakamura.

Claim 22, 23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al (EP 0945916 B1) in view of Ogihara et al (US 4,299,873). Maeda teaches the electromagnetic absorbing material above including the silicone gel matrix, but does not teach specific examples of an adhesive formed on at least one side of the sheet. Ogihara teaches a circuit board with adhesives comprising organic or inorganic materials with fillers having good electrical properties and good thermal conductivity. The fillers may comprise alumina, SiN, etc. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a conventional attachment means such as a pressure sensitive adhesive as taught by Ogihara for attachment of the sheet of Maeda as it is clearly taught as a useful means for attaching in an electrical component by Ogihara.

Conclusion

Application/Control Number:
10/531,890
Art Unit: 1794

Page 8

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer McNeil whose telephone number is 571-272-1540. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer McNeil/
Primary Examiner
Art Unit 1794

JCM